

IN THE DRAWINGS

Applicants have amended Figure 4 to address the Examiner's objections regarding the drawings. Applicants have amended Figure 4 to correct typographical errors, which caused the reference 410 to be used for multiple components. No new matter has been added since all amendments made to Figure 4 are fully supported by the description in the Specification. Therefore, the corrected drawings are provided along with the Submission of Replacement Drawings filed concurrently with this response to office action dated February 16, 2005. Additionally, Figure 6 was corrected where the word "recieved" was corrected to read "received".

REMARKS

Claims 1-24 remain pending in this application. Additionally, claim 25 has been newly added. Therefore, claims 1-25 are now pending.

The Examiner objected to the drawings under 37 C.F.R. 1.84(P)(5). Applicants have amended Figure 4 to address the Examiner's objections regarding the drawings. The Examiner objected to the drawings as failing to comply with 37 C.F.R. §1.84(d)(5). Applicants have amended Figure 4 to correct typographical errors, which caused the reference 410 to be used for multiple components. The Specification, for example, supports description that provides for labels of 420, 430 and 440 for various components of Figure 4. *See* page 9, line 23 through page 11, line 14. Therefore, the typographical errors have been corrected to make Figure 4 consistent with the description in the Specification. No new matter has been added as a result of the amendments to Figure 4. The amendments made to Figure 4 are fully supported by the description in the Specification. Corrected drawings are provided along with the Submission of Drawings filed concurrently with this Response to Office Action dated February 16, 2005. Therefore, Applicant respectfully asserts that the Examiner's objections to the drawings are now rendered moot and respectfully requests that the Examiner withdraw the objection to the drawings.

The Examiner objected to the Specification regarding typographical errors. Appropriate corrections to the specification have been made to address the Examiner's concerns. For example, the term "four DSL systems" has been changed to "three DLS systems", "an apparatus" has been changed to "a system", "is may" has been changed to "may", and "is send" has been changed to "is sent." No new matter has been added as a

result of the amendments to the Specification. In light of the amendments, Applicant respectfully asserts that the Examiner's objections to the Specification are now rendered moot and respectfully requests that the Examiner withdraw the objection to the Specification.

The Examiner objected to claims 16 and 24 due to informalities. Applicants have amended claims 16 and 24 to correct typographical errors that prompted the objections. The amendments were made to address the Examiner's objections, therefore, the objections are now rendered moot and claims 16 and 24 are now allowable.

The Examiner rejected claims 8-11 under 35 U.S.C. § 112, second paragraph, as being indefinite. In light of the amendments and arguments provided herein, Applicant respectfully traverses this rejection.

Claims 8-11 have been amended to replace the term "approximately" with the term "about." Applicant respectfully asserts that the term "about" may be deciphered by one skilled in the art upon a reading of the claims and the specification. Applicant respectfully asserts that the term "about," when discussing certain bandwidth values, is indeed definite and would be understood by those skilled in the art. Therefore, Applicant respectfully asserts that in light of the amendments to claims 8-11, they are no longer indefinite, and therefore, are allowable.

The Examiner rejected claims 1, 2, 6, 7, and 12-24 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,507,606 (*Shenoi*). In light of the amendments and arguments provided herein, Applicant respectfully traverses this rejection.

Applicants respectfully assert that *Shenoi* does not disclose, teach or suggest all of the elements of claim 1 of the present invention (as amended). *Shenoi* is directed to an asymmetrical digital subscriber loop system. *Shenoi* discloses the asymmetrical system being used for providing greater data transmission. Although *Shenoi* discloses two circuits, each having different amplifications, *Shenoi* clearly does not disclose all of the elements of claim 1 as amended. For example, *Shenoi* clearly does not disclose determining a bandwidth requirement for a signal path associated with a portion of a signal for controlling a gain of the portion of the signal, as called for by claim 1 (as amended) of the present invention. The Examiner cites a passage in *Shenoi* disclosing the bandpass filter BPF that isolates the frequency bands from 10khz to 44khz to provide an amplification by amplifier AMP-U. See col. 8, lines 3-7. The Examiner also cites a gain that is used to address the attenuation of approximately 6000 feet of cable at 27khz. See col. 8, lines 5-8. The Examiner also points to the downstream signal being amplified by AMP-D after a highpass filter HPF separates the band above 60 khz. See col. 8, lines 9-11. However, these passages merely refer to circuits that address filtering of the signal to amplify a downstream signal and an upstream signal. *Shenoi* merely discloses amplification for addressing the attenuation of 6000 feet of cable and 27khz for the upstream signal and at 600khz for the downstream signal. Nowhere in *Shenoi* is it disclosed or suggested determining a bandwidth requirement of a signal path.

Shenoi does not disclose the subject matter of the gain of a portion of the signal being controlled based upon a determination of a bandwidth requirement of a signal path, as called for by claim 1 of the present invention. *Shenoi* simply does not disclose controlling the gain based upon determining of a bandwidth requirement. *Shenoi* merely discloses providing filter for specific ranges of frequencies for downstream and upstream amplification. *Shenoi*

clearly does not determine any bandwidth requirements, as called for by claim 1 of the present invention. Therefore, for at least the reasons cited above, all of the elements of claim 1 are not taught, disclosed, or suggested by *Shenoi*.

Additionally, claim 12 calls for a circuit that is capable of separating a plurality of signal paths based upon the characteristic of the signal path for applying a corresponding gain upon the signal path. These elements are not disclosed by *Shenoi*. As described above, *Shenoi* does not separate any signal paths based upon the characteristics of the signal path to apply a corresponding gain upon the signal path. *Shenoi* merely discloses a predetermined bandpass filter for filtering upstream and downstream signals. *Shenoi* clearly does not disclose separating the plurality of signal paths based upon a characteristic of the signal path to apply a corresponding gain, as called for by claim 12, as amended, of the present invention. Therefore, for at least the reasons cited above, all of the elements of claim 12 are not taught, disclosed, or suggested by *Shenoi*.

Claim 18 calls for a system that includes a gain/bandwidth controller that is capable of separating a signal path based upon the characteristic of said signal path and applying an appropriate gain upon a signal. *Shenoi* does not disclose separating a signal path based upon a characteristic of a signal path and applying appropriate gain. *Shenoi* merely discloses a predetermined gain to be applied upon a downstream or an upstream signal. *Shenoi* does not disclose a controller to separate a signal path based upon the characteristic of the signal path. Furthermore, *Shenoi* does not disclose the summation block of claim 18. The Examiner cited 2w-to-4w conversion in *Shenoi* to read upon the summation. See, col. 7, line 64-col. 8, line 24. However, the Examiner does not provide evidence or arguments to support such a

contention. For at least the various reasons cited above, claim 18 is also not taught, disclosed, or suggested by *Shenoi*.

Shenoi merely is directed to providing a first and a second gain adjustment based upon attenuation of the first and the second communications, but does not disclose determining a bandwidth requirement of a signal path and then controlling the gain based upon the determination, as called for by claims of the present invention. Additionally, newly added claim 25 calls for monitoring a signal and determining the approximate length of a signal path carrying the signal and determining a bandwidth requirement of the signal path, followed by determining a gain factor to be applied to the signal path and applying the gain, which are elements not taught or suggest by *Shenoi*. As described above, *Shenoi* does not disclose determining the bandwidth requirement, nor does it disclose determining the approximate length of a signal path. *Shenoi* merely applies pre-determined gain to a downstream or upstream signal, as called for by claim 1 of the present invention. Therefore, for at least the reasons cited above, claims 1, 12, 18, 24 and 25 are not disclosed, suggested or taught by *Shenoi*. Accordingly, independent claims 1, 12, 18, 24 and 25 are allowable.

Independent claims 1, 12, 18, 24 and 25 are allowable for at least the reasons cited above. Additionally, dependent claims 2-11, 13-17, and 19-23, which respectively depend from independent claims 1, 12, and 18, are also allowable for at least the reasons cited above.

The Examiner rejected claims 3-5 and 8-11 under 35 U.S.C. § 103(a) as being unpatentable over by U.S. Patent No. 6,507,606 (*Shenoi*). In light of the amendments and arguments provided herein, Applicant respectfully traverses this rejection.

The Examiner argues that claims 3-5 and 8-11 are made obvious by *Shenoi*, even though *Shenoi* does not expressly disclose monitoring at least one signal being transmitted comprising determining whether the signal is a voice signal. The Examiner discloses *Shenoi* to cite determining whether the signal is a data signal in order to amplify the signal. However, Applicants respectfully assert that merely determining the data signal and the addition of the element of determining whether the signal is a voice signal of claim 3 simply still does not make for the deficit or the lack of disclosure of *Shenoi*, as described above. Merely disclosing the voice for the determination of whether the signal is data signal (claims 2 and 8), a voice signal (claims 3 and 10), a DC signal (claims 4 and 11), or a ringing signal (claims 5 and 11) would still not make obvious all of the elements of independent claims of the present invention. As described above, *Shenoi*, does not disclose the bandwidth requirement of a signal path and controlling that gain based upon such determination as called for by independent claim 1, from which claims 3-5 and 8-11 directly or indirectly depend. Simply disclosing determining whether a signal is voice data, DC signal, ringing, etc., would not make obvious the novel concepts of controlling the gain based upon determining a bandwidth requirement, as called for by claim 1 of the present invention (from which claims 3-5 and 8-11 directly or indirectly depend). Therefore, claims 3-5 and 8-11 are not made obvious by the disclosure of *Shenoi* and are allowable for at least the reasons cited above.

Reconsideration of the present application is respectfully requested.

If for any reason the Examiner finds the application other than in condition for allowance, **the Examiner is requested to call the undersigned attorney at the Houston,**

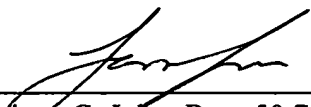
Texas telephone number (713) 934-4069 to discuss the steps necessary for placing the application in condition for allowance.

Respectfully submitted,

WILLIAMS, MORGAN & AMERSON, P.C.
CUSTOMER NO. 23720

Date: May 16, 2005

By: _____


Jason C. John, Reg. 50,737
10333 Richmond, Suite 1100
Houston, Texas 77042
(713) 934-7000
(713) 934-7011 (facsimile)
ATTORNEY FOR APPLICANT(S)